WHAT IS THE ROLE OF ENDOVASCULAR TREATMENT IN TAKAYASU DISEASE OF AORTA AND ITS BRANCHES

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TAKAYASU ARTERITIS

• 1-CH INFLAMMATORY DIS OF AORTA & ITS MAJOR BR
• 2-EXACT ETIOLOGY IS UNKNOWN
• 3-THOUGHT TO BE OF AUTOIMMUNE ORIGIN
• 4-ABNORMALITY OF HUMORAL & CELLULAR IMMUNITY
• 5-INCREASED CD4+ TO CD8+ RATIO
  • HIGH LEVELS OF INTRA CELLULAR CALCIUM IN T LYMPHOCYTES OF CIRCULATING IMMUNE COMPLEXES
  • HIGH Ig LEVELS
  • ANTI AORTIC ANTIBODIES
  • DENSE NATURAL KILLER CELLS INFILTRATES IN WALL OF AORTA & ITS BRANCHES

Pathogenesis

PANARTERITIS

Early stage:
infiltration in the adventitial & medial layers of vessel wall by lymphocyttes, macrophages, plasma cells and giant cells

Later stage:
intimal and adventitial fibrosis & medial degeneration → varying stenosis & dilatation of involved vessels

Purely stenotic 85%
Aneurysmal 2%
Mixed 13%

TECHNOLOGIES AVAILABLE

• PTBA
• STENTS (BMS / SES / DES)
• DEB
• CUTTING BALLOONS
• STENT GRAFTS / COVERED STENTS
• HYBRID APPROACHES

DISCLOSURES

• I HAVE A CONSULTANCY AGREEMENT WITH
  – BOSTON SCIENTIFIC
  – ASTRA ZENICA
Balloon Angioplasty of Aorta

<table>
<thead>
<tr>
<th>Author</th>
<th>Pts</th>
<th>Balloon diam.</th>
<th>Results Aorta at stenosis</th>
<th>Major complication</th>
<th>Follow up Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gu et al</td>
<td>16</td>
<td>10-20 mm</td>
<td>4.4 mm / 10.3 mm</td>
<td>Dissection –1</td>
<td>18.1 Months</td>
</tr>
<tr>
<td>Rao et al</td>
<td>16</td>
<td>All (100)</td>
<td>10.2 mm / 10.5 mm</td>
<td>Cerebral infarct –1</td>
<td>21.4 Months</td>
</tr>
<tr>
<td>Sharma</td>
<td>10</td>
<td>5-12 mm</td>
<td>All (100)</td>
<td>Dissection –2</td>
<td>17.8 Months</td>
</tr>
<tr>
<td>Tyagi et al</td>
<td>146</td>
<td>7-20 mm</td>
<td>4.2 mm / 5.5 mm</td>
<td>Long dissection – 4</td>
<td>54.4 Months</td>
</tr>
</tbody>
</table>

Our Experience

- N : 147
- TA / AA : 29/118
- PTBA : 124
- STENTS : 23 (SUBOPTIMAL RESULTS, RESIDUAL PG > 20mmHg, DISSECTIONS)
- PROCEDURAL SUCCESS : 100% (all lesions were stenotic)
- F/U @ 36 MTHS : N : 132
  - RESTENOSIS : 7% (PG > 20 mmHg / 7/32)
  - ANURYSM : 2
  - Thrombosis : NIL
  - NEW LESION : 24
  - DISEASE REACTIVITY : 25
  - IMMUNO SUPPRESSION : 132 (90%)

Endovascular Intervention in Takayasu Arteritis
involving carotid arteries
PRESENTATION

22 yr young male presented with -

– Recurrent Loss Of Conscious (Recent Onset)
– Rt Arm Claudication
ENDOVASCULAR INTERVENTIONS IN TAKAYASU ARTERITIS INVOLVING AORTA AND ITS ARCH VESSELS

- NO : 345
- AO : 147
- SCA : 074
- CA : 122

SPECIFIC TIPS

- DILATATION WITH UNDERSIZED HIGH PRESSURE NON COMPLIANT BALLOONS
- PROLONGED DILATATION
- GOOD DSA FOR DETECTING RUPTURE
- COVERED STENTS FOR MANAGING RUPTURE
- MINOR NON FLOW LIMITING DISSECTIONS SHOULD BE LEFT ALONE
- STENTS FOR MAJOR DISSECTIONS, Recoil
- AS FAR AS POSSIBLE, AVOID STENTS FOR MANAGING ABD AORTIC LESIONS AND JUXTA AORTIC MESENTRIC ARTERY / RENAL ARTERY STENOSIS

ENDOVASCULAR MANAGEMENT

- HAS EMERGED AS THE TREATMENT OF CHOICE FOR BOTH STENOTIC & ANEURYSMAL LESIONS
- MAJOR ADVANTAGES
  - EASE
  - SAFETY
  - EFFICACY
  - FEASIBILITY OF TACKLING MULTIPLE LESIONS & MULTIPLE VESSELS AT THE SAME TIME
  - RESULTS OF PTA CAN BE IMPROVED BY STENT PLACEMENTS

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